

Application No. 10/642,410

REMARKS

Claim 1, along with its dependent claims 3-5, have been rejected under 35 USC 103(a) over Hamilton in view of Touchette.

The invention of claim 1 is an apparatus for folding sheets. It includes two crease rolls forming a nip therebetween; a set of sheets is pushed through the nip and the rolls fold and crease the sheets. One of the crease rolls is driven through a "slip element" such as a slip clutch. As described in the Specification as filed starting at page 4, line 29, the slip clutch addresses a practical problem caused by the sudden changes in frictional coefficients among the sheet surfaces as the sheets pass through the nip.

The primary reference, Hamilton, shows a folding machine having two rollers. For an instance of the use of a slip element, the secondary reference, Touchette, is cited. Touchette teaches the use of a slip element or clutch, indicated as 324.

In order to combine references to sustain a rejection under 103, there must be a motivation in the references to combine the teachings. Hamilton certainly shows the basic crease-roll system which is well known for folding sheets. However, the secondary reference, Touchette, is not at all directed to the folding of sheets. Touchette is on the whole directed to a machine which prints duplicates from microfiche originals. The specific context in which slip clutch 324 is used in Touchette, column 10, lines 13-21, is not directed to the folding of sheets, but rather to the simple linear motion of a "copyboard assembly," which is never folded and never intended to be folded. Indeed, the only reference to *folding* in the entire Touchette disclosure is at column 12, line 58, and talks about how a fold in the microfiche original may cause a malfunction of the machine. Simply put, there is no reference to the deliberate folding of sheets in Touchette; and a person of skill in the art would have no motivation to look to Touchette for a teaching of anything useful to the purpose of folding sheets. Therefore, there is no motivation to combine the slip-clutch teaching of

Application No. 10/642,410

Touchette with the crease-rollers of Hamilton, and the references cannot be combined under 103. Claims 1 and 3-5 are not obvious in view of the references.

Claim 2 has been rejected over Hamilton in view of Touchette, and further in view of Wakabayashi, which is cited to show a blade being used to push the sheets through the nip. Nonetheless, claim 2 is patentable as being dependent from claim 1, the patentability of which has been argued above.

Claim 6, along with its dependent claims 7, 8, and 11, are rejected under 102(b), or, in the alternative, under 103(a) in view of Hamilton. Once again, Hamilton shows the basic crease-roll arrangement for folding sheets, including gear means 76, 78. However, claim 6 further recites "limiting the transmitted torque as a result of an effective change in frictional coefficient between the first roll and the second roll." As mentioned in the Specification as filed, such changes in effective frictional coefficient can be caused by the entry of folded sheets into the nip. This concept is neither taught nor remotely suggested by Hamilton.

Hamilton, as a whole, is directed to a "buckle-chute paper folding apparatus." The overall operation of Hamilton can be followed in Figure 5-8 of Hamilton: a single sheet to be folded is drawn between rollers 54, 56 until the end thereof is stopped at stop 44 (Figure 6); thereafter, the sheet keeps moving, forming a fold edge 25 (Figure 7) which is then sharply creased by rollers 58, 60 (Figure 8).

The gear means cited in Hamilton, 76, 78, respectively drive shafts 59, 61 (column 4, lines 23-25), which in turn support and rotate rollers 58, 60 (column 4, lines 1-2). Nowhere in Hamilton is there any disclosure or suggestion that the gear means 76, 78 are sensitive to *any* changes in frictional coefficient between rollers 58, 60, or that they would change their behavior (their velocity or torque, for example) in response to a change in frictional coefficient, such as may occur when a folded sheet passed therethrough. Absent such a disclosure or suggestion, Hamilton does not anticipate claims 6-8 and 11; nor would a person

Application No. 10/642,410

of skill in the art see therein a teaching that limiting the torques between roller 38, 60 is for any reason desirable, and therefore the claims are patentable over Hamilton.

Claims 9 and 10 have been rejected over Hamilton in view of Touchette. As with claim 1 above, Touchette is cited to show the use of a slip element or clutch, which would provide the recited slip between a drive member and its corresponding roll. Once again, however, Touchette teaches a slip clutch in a context *far removed* from the deliberate folding of a sheet, and a person of skill in the art would have no motivation to look to Touchette for a teaching of anything useful to the purpose of folding sheets, so the references cannot be combined under 103. Claims 9 and 10 are not obvious in view of the references.

Claim 12 has been rejected over Hamilton in view of Touchette, and further in view of Wakabayashi, which is cited to show a blade being used to push the sheets through the nip. Nonetheless, claim 12 is patentable as being dependent from claim 6, the patentability of which has been argued above.

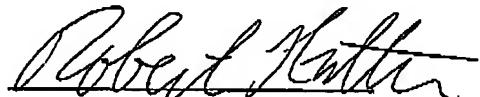
In summary, the **only** reference to the use of a "slip element" in the cited art is in Touchette; and there is no teaching in Touchette that a slip element would be useful in the context of **folding sheets**. There is no disclosure in Hamilton that the **torque of the rollers is limited**; nor is there a suggestion of why it **should be limited**. For these reasons, the claims are patentable over the references.

No additional fee is believed to be required for this amendment; however, the undersigned Xerox Corporation attorney authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025.

Application No. 10/642,410

It is respectfully submitted that the present set of claims are patentably distinct over the cited references. In the event the Examiner considers personal contact advantageous to the disposition of this case, he is hereby requested to call the undersigned attorney at (585) 423-3811, Rochester, NY.

Respectfully submitted,



Robert Hutter
Attorney for Applicant(s)
Registration No. 32,418
Telephone (585) 423-3811

August 3, 2004
RH/fsi
Xerox Corporation
Xerox Square 20A
Rochester, New York 14644